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Method for subtitling video sequences as well as device for carrying out same

The invention relates to a method for on-line subtitling of a video recording (FBAS signal) supplied by a video source (2), for example the signal of a television transmitter recorded by means of a video recorder. To reproduce the FBAS signal, from a storage unit (5.1, 5.2) of a data storage system (5) a data quantity is taken relevant to the video text and/or subtitling information, it is superimposed on the FBAS signal in a mixer stage (6) synchronously, i.e. correctly matching time and/or picture content, and the FBAS signal is subsequently supplied to a reproduction device (3), and the data removal

from the storage unit (5.1) and/or the storage unit (5.2) takes place under the control of a timing unit (25), which is activated with the start of the reproduction of the FBAS signal and synchronized by the timing of the FBAS signal.

Specification

The invention relates to a method according to the preamble of claim 1 and an arrangement for carrying out the method.

Subtitling in video sequences, i.e. in television broadcasts or video recordings, serve for the purpose of explaining the picture content – thus, if additional comments are to be added to the picture content. This can be necessary, for example, if the spoken text of the recorded audio information is in a foreign language or is not adequate for an understanding of the picture content or if the addressee cannot acoustically perceive the sound due to hearing loss or can only do so insufficiently.

Such subtitling is either inserted into the video information or (two bars) within the videotext information (in some countries referred to as teletext) placed in the background behind the picture content. The subsequent explanations refer to the digital two-bar subtitling in the back of the videotext behind the screen content, which is transmitted in the blanking interval serving for the synchronization of the television signal (FBAS signal).

Of disadvantage in prior art is that the videotext information - and therewith the subtitling - is lost if the television signal is recorded with a conventional video recorder of consumer electronics. Moreover, so far subtitling cannot be added or changed at the user end.

Starting from the disadvantages of prior art, the invention therefore addresses the problem of specifying a method of the above cited species and an arrangement for carrying out the method, which permits adding subtitles to a video signal subsequently with means available to home users.

The problem is solved through the characteristics specified in claims 1, 8 and 11.

The invention includes the findings that the digital information of the subtitling can be retained in stores which are simple to handle with digital means (PC), can be changed and added again to the running video sequence within the video text information with relatively low expenditure, if they are stored together with time information or with picture information reduced to at least a specifiable pixel number, which controls the later insertion into the running reproduction.

Therewith a number of advantageous possibilities are obtained with respect to handling, since during the reproduction the decision can be made of whether or not subtitling is to be inserted. Moreover, one of several stored subtitles can optionally also be selected.

Therewith, on the one hand, subtitles can subsequently be generated for an available recording with means (PC) available to the home user, and, on the other hand, the subtitle information can also be separately stored and called up. Since this is information which only contains the title and the associated time information as well as perhaps further differentiation characters, the storage requirement is relatively low, such that for the transmission a commercially available modem is sufficient.

Consequently, even persons who master less widely known languages can obtain the additional information required for understanding a video program. Precisely, for example, hearing impaired, who only speak a foreign language, in this manner have the possibility of obtaining the information necessary for an understanding.

But there are further diverse application feasibilities:
for learning a foreign language, to a foreign-language film optionally written explanations or different spellings or translations can be added to the spoken text, which offer to the untrained listener an aid for understanding, until - after repeated playback - the spoken text and also its spelling are familiar.

Joining the two-bar information can take place in an apparatus auxiliary to a TV set or video recorder. Herein a videotext signal is generated, which contains the subtitles in the correct time. The apparatus are capable of processing such signals, since these correspond to standardized signals. The particular signals can be obtained via a modem from the entire telephone network, data networks, digital TV channel information or from publicly accessible data libraries. The transmission can additionally take place in compressed form such that only short connection times are necessary.

Suitable as storage media for the added subtitles are also conventional data media of data technology. Among them are discs, CD ROMs, etc.

According to a preferred embodiment of the method according to the invention, for the reproduction of the FBAS signal, from a storage unit of a data storage system is taken a quantity of data relevant to the videotext and/or a subtitle information, superimposed on the FBAS signal in a mixer stage synchronously with its course in time, and the FBAS signal is subsequently supplied to a reproduction device. In order to ensure the requisite synchronism between the two signal quantities at the point of time of superposition, the data removal from the storage unit is carried out under the control of a timing unit. This timing unit is activated with the start of the reproduction of the FBAS signal and can be synchronized with the timing clock of the FBAS signal or a separate precise timing unit. Optionally it is also possible to fall back on the information from a frame counter directly.

According to an advantageous further development of the method, for the on-line subtitling of a

video recording or a currently running program, in addition to the picture information of the signal containing videotext and/or subtitle information, of a television transmitter (FBAS signal) from the FBAS signal a signal relevant to the video text and/or subtitle information is selected and parallel to the recording through the video recorder read into the storage unit of a data storage system synchronously with the time course of the FBAS signal. To reproduce the FBAS signal recorded by the video recorder, the output signal of the video recorder is first superimposed with the signal stored in the storage unit of the data storage system onto the videotext or subtitle information in a mixer stage synchronously with the time course of the FBAS signal and subsequently supplied to a reproduction device. In this way, in spite of the absent option of directly recording subtitling with a video recorder, a corresponding signal is nevertheless later available.

In order to ensure the required time synchronism of the FBAS signal in the selection and later addition of the signal component, relevant to the video text and/or subtitle information, concurrent with the start of the recording, a timing unit is activated by the video recorder, synchronized through the frame frequency pulses of the FBAS signal. This unit controls in the storage unit of the data storage system during the reading-in of the videotext an/or subtitle information the acquisition of the length of the time of the particular relevant signal. Similarly, concurrent with the start of the reproduction of the FBAS signal recorded by the video recorder, a timing unit, synchronized by the frame frequency pulses of the output signal of the video recorder, and the data storage system is activated for the output of the signals relevant to the video text or subtitle information.

According to another advantageous further development of the invention, the subtitles desired for a provided television transmission is preproduced and the appropriate data quantity stored in a data store. Hereby, the subtitles can advantageously be prepared multilinguistically and can be archived in a data library.

According to a favorable further development of the invention, the subtitle data are obtained from a data base, for example a data base accessible over the public telecommunication network by means of a modem through the Internet or T-Online service, or from a special videotext data channel. The communication with the above listed data stores takes place with the infrared remote control customary for operating the television set, the menu control being provided via the television screen.

To ensure that fading the subtitles, serving for an explanation of the picture content, into a video sequence, i.e. into a television program or a video recording, takes place at all times appropriate to the picture content, according to a further advantageous embodiment of the invention in the production of the subtitled portions of the video data or of the video and audio data of the particular picture or the particular pictures to be subtitled, are acquired as minimum information through a reduced number of pixels. These digital data quantities acquire the essential image content and are formed as rough

information in the form of reduced scene information oriented substantially along constant scene elements and/or as fine information in the form of information regarding scene details, are assigned through an identification to the corresponding subtitles and stored in a separate storage system.

When reproducing a desired subtitle, the current picture information or the current picture and sound information is compared with the stored data quantities of the separate storage system (reduced pixel comparison) in order to be able to provide the particular applicable subtitle such that it is correct in terms of the picture content.

The reduced pixel comparison, provided for the picture content-correct assignment of the subtitling, advantageously requires only a relatively low storage capacity.

According to a favorable further development of the invention the assignment of the subtitles is carried out in combining synchronism, agreeing in time, as well as also agreement of the comparison of picture or picture and sound content of a picture or of a scene.

Through the above described type of method it can be attained advantageously *inter alia*, that advertisement blocks or picture disturbances transmitted through television are not included in the subtitling process.

The arrangement for carrying out the method according to the invention is implemented as a separate apparatus or as an installed apparatus and comprises electronic components for the selection of the signal components of the FBAS signal, relevant to the video text and/or subtitle informations, a data storage system with a storage unit for recording and for reading out, as necessary, the signal components of the FBAS, relevant to the videotext and/or subtitle information, and a mixer stage, in which the signal components, relevant to the videotext and/or subtitle information, are added synchronously to the FBAS signal present at the output of the video recorder during playback operation.

To activate the data storage system, i.e. for acquiring the point in time of the presence of videotext to be stored or of a subtitle signal and its duration as well as to secure the synchronism during the selection, the recording and during the playback, between the signal components, relevant to the videotext and/or subtitle information, and the corresponding FBAS signal, according to the preferred embodiment of the arrangement a synchronizing control is provided for the storage and/or the reading out of the corresponding signal components. It comprises at least one timing unit synchronized by the FBAS signal, for example through the frame frequency pulses of the FBAS signal.

In order to keep low the technical device expenditures for carrying out the method according to the invention, according to a favorable further development of the invention for all processes during the recording and playback of videotext and subtitle information a central timing unit, clocked by the FBAS signal, is utilized in order to ensure the time synchronism during the selecting, the recording and during the playback, between the signal components, relevant to the videotext and/or subtitle information, and

the corresponding FBAS signal.

The arrangement according to the invention advantageously also comprises actuation means, in order to be able to compensate discrepancies in the synchronism between video signal and the signals relevant to the coupled-in subtitle information.

Discrepancies can occur if - caused by cuts or the like - different versions of a video sequence exist. The actuation means are advantageously implemented as manually operatable function keys - accessible from the outside on the separate apparatus – permit the coarse and fine actuation of the resynchronization through sudden changes of the timing unit or counter means, with which the recorded time information is being compared.

According to a preferred embodiment of the invention the storage unit is implemented as mass store.

After an advantageous further development of the invention, the fixed disk store of a personal computer or a CD ROM is utilized as the data storage system.

By employing a modem or another telecommunication device, preproduced subtitle information can be called up from data bases and be transferred to a specific FBAS signal.

The arrangement for carrying out the method according to the invention, furthermore, comprises electronic switching means, which in favorable manner ensure the simultaneous activation of the data storage system, of the timing unit synchronizing the above described time course as well as of the video recorder during the video recording and during the playback of the video recording.

According to another favorable further development of the invention, the ON or OFF switch of the video recorder for the functions "record" or "play" are provided as the switching means.

In order to attain in the synchronous superposition of the signal, relevant to the video text and/or the subtitle information, and the FBAS signal in the mixer stage, given the large number of data, precise time synchronism, the desired data are supplied to an intermediate store according to an additional further development of the invention. This intermediate store is provided in the line connection between the storage unit of the data storage system for the signal components, relevant to the video text and/or the subtitle information, and the mixer station. It has a data output, which can be enabled through a switching device. The switching device is controlled by a comparator and enables the data output of the intermediate store if the comparator, controlled by the timing unit, has detected agreement of the clock of the FBAS signal and of the associated signal component relevant to the videotext and/or subtitle information. A switching device with a gating circuit is favorable for enabling the data output of the intermediate store.

According to another advantageous embodiment of the arrangement, filter and storage means are provided with which at the recording end from the FBAS signal minimum picture or scene information

(reduced pixel number) is selected and correspondingly stored with reference to the particular subtitle. In order to be able to carry out precisely the subtitling of the television picture at the playback end with reference to picture or scenes with the subtitles stored in a store, filter and comparator devices are provided, with which, on the one hand, from each FBAS signal to be reproduced a minimum picture information is obtained and, on the other hand, a comparison (reduced pixel comparison) with the minimum picture information available in the recording end storage means is carried out. The picture subtitle information can be obtained from the original FBAS signal or, for example, from an external data base in preproduced form.

Special accuracy in the assignment of subtitle sequences to corresponding television pictures can be attained if the arrangement comprises means with which a comparison of the time synchronism of the video signals as well as also a reduced pixel comparison of the corresponding video sequences can be performed simultaneously.

An additional switching logic ensures that the stored subtitle information is only switched to the mixer stage for the superposition with the FBAS signal, if in both comparators correspondingly agreement has been detected.

According to another advantageous further development of the invention, selection means are moreover provided with which specific subtitling, provided with a corresponding selection identification, can be selected from a group of several corresponding ones. This is favorable in the case of different languages or discrepant addressees of the subtitling.

To simplify the operation, it is furthermore favorable if function control signals are faded in on the screen, which indicate the particular operating states. They are faded in via videotext corresponding to the subtitling information.

Other advantageous further developments of the invention are characterized in the dependent claims or will be discussed in further detail in the following together with the description of the preferred embodiment of the invention in conjunction with the drawing. Therein depict:

Fig. 1 the block circuit diagram of an electronic configuration for carrying out the method according to the invention,

Fig. 2 a block circuit diagram of the recording area of an arrangement for carrying out the method according to the invention,

Fig. 3 a block circuit diagram of the playback area of an arrangement for carrying out the method according to the invention,

Fig. 4 a block circuit diagram of the playback area of another advantageous embodiment of the arrangement for carrying out the method according to the invention,

Fig. 5 a further development of the embodiment of the invention depicted in Figure 4,

Fig. 6 the illustration of a favorable further development of the invention.

The block circuit diagram depicted in Figure 1 shows a television receiver 3 or a video recorder 2, respectively, which is connected across a distributor 17 and the signal lines 9 and 10 to a common antenna system 4. The arrangement 1 for the on-line subtitling of video recordings comprises, via signal lines 11, 19 and 20, a connection to the distributor 17, the video recorder 2 and the television receiver 3. A control line 8 ensures that upon switching on the recording or the playback function of the video recorder 2, the data storage system 5 of arrangement 1 is simultaneously activated.

Through the electronic filter packages (*cf.* positions 13, 14 and 18 in Fig. 2) provided in the data storage system 5, during recording operation of the video recorder 2 from the FBAS signal supplied over line 11 the signal component corresponding to the video text and/or subtitle information is selected and stored in a storage unit. During playback operation of video recorder 2, the signal component corresponding to the video text and/or the subtitle information is conducted to a mixer stage 6 of arrangement 1 and there superimposed on the preciously recorded FBAS signal supplied across a line 7. The synchronization pulses required for the time synchronism of all processes are 5 [sic] provided across lines 11 and 19 and processed in the data storage system 5 for the corresponding synchronization processes. The FBAS signal provided according to the invention again with video text and/or subtitle signal components, is conducted across signal line 20 to the television receiver 3 for reproduction.

To be able to transmit preproduced videotext and subtitle information on-line onto a video recording, the data storage system 5 is coupled with a personal computer 18. As the storage unit in this case the fixed disk of the personal computer 18 is utilized, and a library-like archiving of the preproduced videotext and subtitle information is possible in advantageous manner.

Fig. 2 depicts in schematic form a block circuit diagram with the function groups of arrangement 1 provided for the recording operation of the video recorder 2.

The FBAS signal to be recorded is conducted from the distributor 17 across line 9 to the video recorder 2. The same signal is processed in the data storage system of the arrangement according to the invention (*cf.* positions 1 and 5 in Fig. 1). In addition, the signal component, relevant to the video text and/or subtitle information, is selected through the filter components 13, 14 from the FBAS signal and stored in storage unit 5.1.

For another, simultaneously via the filter component 18 the selection of a signal component takes place to which corresponds a pixel-reduced information, related to the particular videotext or subtitle information, of the associated picture. This signal component is stored in the storage unit 5.2 related to subtitle or videotext, respectively.

The point in time of the occurrence and the duration of a present signal component, relevant to videotext and/or subtitle information, is acquired by a timing unit 15 during the storage in the storage unit 5.1. To ensure the synchronism in time between the FBAS signal and the selected signal components, the timing unit 15 is continuously timed through a synchronization stage 12, implemented, for example, as a frame frequency counter.

The switching means 2.1 ensures that when switching on the recording operation of the video recorder 2, concurrently activation of the data storage system (*cf.* the position 5 in Fig. 1), i.e. of the storage units 5.1, 5.2 and of the timing unit 15, takes place across a control line 8.1. Integration of the switching means 2.1 with the key, located in the operating field of the video recorder for switching on or off the recording operation of the video recorder, is of advantage from the point of view of technical apparatus.

To achieve that the storage unit 5.1 does not operate continuously, a control line 16 is provided. This line sets in operation the storage unit 16, which is in stand-by operation, whenever the filter components 13, 14 has selected from the FBAS signal a signal component which is relevant to the video text and/or subtitle information.

Fig. 3 shows in schematic form a block circuit diagram with the function groups of arrangement 1 provided for playback operation of the video recorder 2. With the start of the playback operation of the video recorder 2 concurrently the storage unit 5.1 and a timing unit 25 is activated across control line 8.2 by actuating switching means 2.2 . As in the recording process described correspondingly in Fig. 2, the provided timing unit 25 is timed by a synchronization stage 22 via the FBAS signal to be reproduced and conducted on signal line 7. The signal, relevant to a videotext or a subtitle, read concurrently from the storage unit 5.1 is supplied across an intermediate store 21 to the mixer stage 6 and here superimposed on the FBAS signal to be reproduced.

The synchronism in time of the FBAS signal to be reproduced and of the signal taken from the storage unit 5.1 is ensured by a comparator 23, which only accesses the switching device 24 if the signal course is synchronous. This switching device 24, in turn, establishes a connection between the output of the intermediate store 21 and the input of the mixer stage 6.

The FBAS signal linked with videotext and/or subtitle information is conducted across signal line 20 to the input of the television receiver 3 where the desired reproduction takes place.

The function groups, depicted in Fig. 4 and required for the reproduction and operation correspond fundamentally to the configuration depicted in Fig. 3.

However, the essential difference consists therein that from the storage unit 5.2 reading-out of the signal component, relevant to the video text and/or subtitle information, takes place with assignment to the picture content of an FBAS signal. In order to be able to take subtitle information from the storage

unit 5.2, the video text and/or subtitle-specific picture information is supplied to a comparator 11. The information about the picture content of the FBAS signal, optionally to be provided with subtitling, is provided to the comparator 11 across the filter component 28 timed through the timing unit 25. Both picture content information represent minimum information and are based on a reduced number of pixels, in order to occupy only a relatively small storage capacity and to ensure high access speed.

In the event of identity of the minimum information acquiring the essential picture content, the output signal of the comparator 11 activates the switching stage 24 and the videotext and/or subtitle information can be taken from the intermediate store 21 and superimposed over the FBAS signal in the mixer stage 6 correct as to picture content.

Fig. 5 shows a configuration for carrying out the method according to the invention. For assigning, correct in time and picture content, picture subtitling to the corresponding picture, synchronism in time of the pictures as well as also agreement of the essential picture or scene information is compared in this configuration. In order to be able to operate with relatively small storage size, the picture comparison is carried out on the basis of a reduced number of pixels determining substantially the picture content and/or the scene. Only if picture synchronism and picture content agree, does the output take place of the subtitling information stored in storage units 5.1 or 5.2 and taken from the intermediate store 21. The corresponding comparator units are denoted by 11 and 23. A switching logic, implemented as an AND element 29, activates the switching device 24 and the signal with the subtitling information is transferred from the intermediate store 21 to the mixer stage 6 and there superimposed on the FBAS signal.

The illustration according to Fig. 6 depicts the arrangement 1 according to the invention in front view.

The arrangement is connected as a separate apparatus across a line 37 with a television set 3. The data line 36 is provided for the connection with a personal computer 18. The already preproduced subtile information to be synchronously superimposed can be taken from the mass store of the personal computer 18 or from a (not depicted) data base. For the connection with a data base a modem 40 is provided. The associated data lines are denoted by 38 and 39.

On the front plate of the side apparatus 1 actuation means 32, 33, 34 and 35 are provided in order to be able to regulate manually the synchronism of the FBAS signal and of the signal relevant to the subtitle information. A fast forward and reverse (keys 33 and 35) and a stop key 34 are favorable. The manual synchronization is activated through key 32. The operating switch and the corresponding display of the operating state are denoted by 30 and 31.

The invention is not limited in its embodiment to the above described preferred embodiment examples. Rather, a number of variants are conceivable, which make use of the described solution even

in fundamentally different embodiments.

Patent Claims

1. Method for providing a previously recorded, in particular recorded by means of a video recorder, video signal with subtitles for picture information in an on-line method, **characterized in that,** parallel to the reproduction of the video signal, to its FBAS signal component in each instance digital subtitle information in videotext format is added in a mixer stage (6) correct in time, which is stored in a storage unit (5.1) in assignment to time information containing the starting point in time and the length of the reproduction of the particular subtitle information and relating to the reproduction time of the video information, and is read out in each instance for the stored duration of the reproduction when the current playback reaches the stored starting point in time, the time control taking place through a timing unit (25), which is started with the start of the playback and is controlled by a timing unit synchronized by an independent source or by the FBAS signal.

2. Method as claimed in claim 1, characterized in that the storing of the digital subtitle information in the storage unit takes place parallel to the playback of the video signal from a video recorder (2) or other video signal store, and concurrently with the start of the recording by the video recorder (2) a timing unit (15), synchronized by the frame frequency pulses of the FBAS, is activated, which [timing unit] during the reading-in of the videotext and/or subtitle information into the storage unit (5.1) generates the time information containing the point in time and duration of the particular subtitle, which time information is retained in the storage unit together with the subtitle information.

3. Method as claimed in claim 2, characterized in that concurrently with the start of the playback of the FBAS signal recorded by the video recorder (2), a timing unit (25), synchronized by the frame frequency pulses of the output signal of the video recorder (2), and the data storage system (5) are activated to output the signals relevant to the subtitle information.

4. Method as claimed in one of claims 2 and 3, characterized in that the superposition of the output signal of the video recorder (2) with the digital subtitle information takes place if a comparison of the time information of the timing unit and of the display time information, containing the display start and duration of the particular subtitle, reveals that the particular time information falls within the display time information.

5. Method as claimed in claim 1, characterized in that additional auxiliary information is permanently or temporarily displayed, independent in time of the reproduction of the subtitles, as videotext information.

6. Method as claimed in one of the preceding claims, characterized in that a subtitle is assigned in several, in particular linguistic, variants to a time information, to each variant in each instance again a selection information is assigned, according to the specification of which the corresponding variant is read out and added to the video information.

7. Method as claimed in one of the preceding claims, characterized in that the subtitle information provided for the reproduction is taken from an external data base, in particular one accessible by means of a modem via a telephone line over the Internet or T-Online service.

8. Method for providing a previously recorded video signal, in particular recorded by means of a video recorder, with subtitles for the picture information in an on-line process, characterized in that, parallel to the reproduction of the video signal, to its FBAS signal component in each instance digital subtitle information in videotext format is added in a mixer stage (6) correct as to picture content, which [subtitle information] in a separate storage unit (5.2) in assignment during the production of the subtitles is acquired as part of the picture information or of the picture and sound information of the particular picture, the addition of the subtitle information taking place following an agreement comparison of the picture information or picture and sound information available in the storage unit (5.2).

9. Method as claimed in claim 8, characterized in that the acquisition of the picture information and the comparison with the FBAS signal is carried out with minimum information, formed from a reduced number of pixels, of the video signal.

10. Method as claimed in claim 9, characterized in that the minimum picture information as rough information in the form of scene information oriented along reduced, substantially constant, scene elements, and/or as fine information in the form of information regarding scene details, is assigned by an identification to the appropriate subtitles and is stored in the separate storage unit (5.2).

11. Method as claimed in one of claims 1 and 8, characterized in that the assignment of the subtitle sequences to the FBAS signal in the mixer stage (6) takes place correct as to time as well as also picture content.

12. Arrangement for carrying out the method as claimed in one of the preceding claims, characterized by

a data storage system (5) with a storage unit (5.1) for recording and reading out the time-marked subtitle information and/or a storage unit for recording and reading out the picture-marked subtitle information, a synchronization control (12, 22) for the data storage system (5) with at least one timing unit (15, 25) synchronized by the FBAS signal, and

a mixer stage (6), in which to the FBAS signal the signal components, relevant to the videotext and/or subtitle information, are added before the reproduction synchronous in time and/or correct as to picture content.

13. Arrangement as claimed in claim 12, characterized in that electronic filter components (13, 14) are provided for selecting the signal components, relevant to the videotext and/or subtitle information, of the FBAS signal, and/or electronic filter components (18, 28) are provided for selecting minimum picture information having a reduced number of pixels from the FBAS signal or a videotext and/or the subtitle information assigned to this picture information.

14. Arrangement as claimed in claim 13, characterized in that the storage units (5,1, 5.2) of the data storage system (5) are implemented as mass store, and as the mass store the fixed disk store of a personal computer (18) or a CD ROM is provided.

15. Arrangement as claimed in one of claims 12 to 14, characterized in that the data storage system (5) can be connected to a data base via a modem (40) or another telecommunication device.

16. Arrangement as claimed in one of claims 12 to 14, characterized in that electronic switching means (2.1, 2.2) are provided for the simultaneous activation of the video recorder (2), of the data storage system (5), and of the synchronizing timing unit (15, 25) during the video recording and/or playback of the video recording.

17. Arrangement as claimed in claim 16, characterized in that, in particular in the case of an installed apparatus, as switching means (2.1, 2.2) is provided the ON and OFF switch for the functions "record" or "play" of the video recorder (2) itself.

18. Arrangement as claimed in one of claims 12 to 17, characterized in that in the line connection

between the storage unit (5.1) of the data storage system (5) for the signal components, relevant to the videotext and/or subtitle information, and the mixer station (6) an intermediate store (21) is provided, whose data output is implemented such that it can be enabled by a switching device (24).

19. Arrangement as claimed in claim 18, characterized in that the switching device (24) enables the data output of the intermediate store (21) if through a comparator (23) and/or a comparator (11), under the control of the timing unit (25), agreement has been detected of the time clock and/or of the picture content of the FBAS signal of the corresponding signal relevant to the videotext and/or subtitle information.

20. Arrangement as claimed in claim 19, characterized in that in the comparator (11) means are provided for a picture comparison on the basis of a reduced pixel number.

21. Arrangement as claimed in claim 19, characterized in that the switching device (24) comprises a gating circuit.

22. Arrangement as claimed in claim 13, characterized in that additional actuation means (32, 33, 34, 35) are provided in order to effect the time assignment between the FBAS signal and the videotext and/or subtitle information by manually adjusting the timing unit.

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6 sheets of drawing enclosed

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